

AGAGCCGCCAGTGGGAG	ATG	TTG	AAG	TTC	AAA	TAT	GGA	GCG	CGG	AAT	CCT	TTG	GAT	GCT	GGT	15
																45
A	A	E	P	I	A	S	R	A	S	R	L	N	L	F	F	35
GCT	GCT	GAA	CCC	ATT	GCC	AGC	CGG	GCC	TCC	AGG	CTG	AAT	CTG	TTC	TTC	105
P	F	M	T	Q	Q	Q	M	S	P	L	S	R	E	G	I	55
CCC	TTT	ATG	ACT	CAA	CAG	CAG	ATG	TCT	CCT	CTT	TCC	CGA	GAA	GGG	ATA	165
F	V	L	F	E	E	C	S	Q	P	A	L	M	K	I	K	75
TTT	GTT	CTC	TTT	GAA	GAA	TGC	AGT	CAG	CCT	GCT	CTG	ATG	AAG	ATT	AAG	225
F	V	R	K	Y	S	D	T	I	A	E	L	Q	E	L	Q	95
TTT	GTC	CGG	AAG	TAT	TCC	GAC	ACC	ATA	GCT	GAG	TGA	CAG	GAG	CTC	CAG	285
D	F	E	V	R	S	L	V	G	C	G	H	F	A	E	V	115
GAC	TTC	GAA	GTC	AGA	AGT	CTT	GTA	GGT	TGT	GGT	CAC	TTT	GCT	GAA	GTG	345
E	K	A	T	G	D	I	Y	A	M	K	V	M	K	K	A	135
GAG	AAA	GCA	ACC	GGG	GAC	ATC	TAT	GCT	ATG	AAA	GTG	ATG	AAG	AAG	GCT	405
Q	E	Q	V	S	F	F	E	E	E	R	N	I	L	S	R	155
CAG	GAG	CAG	GTT	TCA	TTT	TTT	GAG	GAA	GAG	CGG	AAC	ATA	TTA	TCT	CGA	465

Fig. 1A

W	I	P	Q	L	Q	L	Q	Y	A	F	Q	D	K	N	H	L	Y	L	M	E	E	175
TGG	ATC	CCC	CAA	TTA	CAG	TAT	GCC	TTT	CAG	GAC	AAA	AAT	CAC	CTT	TAT	CTG	ATG	GAG	GAA		525	
Y	Q	P	G	G	D	L	L	S	L	L	L	L	N	R	Y	E	D	Q	L	D	E	195
TAT	CAG	CCT	GGA	GGG	GAC	TTG	CTG	TCA	CTT	TTG	AAT	AGA	TAT	GAG	GAC	CAG	TTA	GAT	GAA		585	
N	L	I	Q	F	Y	L	A	E	L	L	I	L	A	V	H	S	V	H	L	M	215	
AAC	CTG	ATA	CAG	TTT	TAC	CTA	GCT	GAG	CTG	ATT	TTG	GCT	GTT	CAC	AGC	GTT	CAT	CTG	ATG	645		
G	Y	V	H	R	D	I	K	P	E	N	I	L	V	D	R	T	G	H	I		235	
GGA	TAC	GTG	CAT	CGA	GAC	ATC	AAG	CCT	GAG	AAC	ATT	CTC	GTT	GAC	CGC	ACA	GGA	CAC	ATC	705		
K	L	V	D	F	G	S	A	A	K	M	N	S	N	K	M	V	N	A	K	255		
AAG	CTG	GTG	GAT	TTT	GGA	TCT	GCC	GCG	AAA	ATG	AAT	TCA	AAC	AAG	ATG	GTG	AAT	GCC	AAA	765		
L	P	I	G	T	P	D	Y	M	A	P	E	V	L	T	V	M	N	G	D	275		
CTC	CCG	ATT	GGG	ACC	CCA	GAT	TAC	ATG	GCT	CCT	GAA	GTG	CTG	ACT	GTG	ATG	AAC	GGG	GAT	825		
G	K	G	T	Y	G	L	D	C	D	W	S	V	G	V	I	A	Y	E		295		
GGA	AAA	GGC	ACC	TAC	GGC	CTG	GAC	TGT	GAC	TGG	TGG	TCA	GTG	GGC	GTG	ATT	GCC	TAT	GAG	885		
M	I	Y	G	R	S	P	F	A	E	G	T	S	A	R	T	F	N	N	I	315		
ATG	ATT	TAT	GGG	AGA	TCC	CCC	TTC	GCA	GAG	GGA	ACC	TCT	GCC	AGA	ACC	TTC	AAT	AAC	ATT	945		

Fig. 1B

106201 91271001

M	N	F	Q	R	F	L	K	F	P	D	D	G	A	T	C	C	A	A	A	G	T	G	A	G	A	G	T	T	T	F	L	335
ATG	AAT	TTC	CAG	CGG	TTT	TTG	AAA	TTT	CCA	GAT	GAC	CCC	AAA	GTG	AGC	AGT	GAC	TTT	CTT	CTT	CTT	CTT	CTT	CTT	CTT	CTT	CTT	CTT	CTT	CTT	CTT	1005
D	L	I	Q	S	L	L	C	G	Q	K	E	R	L	K	F	E	G	L	C	C	C	C	C	C	C	C	C	C	C	C	C	355
GAT	CTG	ATT	CAA	AGC	TTG	TTG	TGC	GGC	CAG	AAA	GAG	AGA	CTG	AAG	TTT	GAA	GGT	CTT	TGC	TGC	TGC	TGC	TGC	TGC	TGC	TGC	TGC	TGC	TGC	TGC	TGC	1065
C	H	P	F	F	S	K	I	D	W	N	N	I	R	N	S	P	P	P	F	P	P	P	P	P	P	P	P	P	P	P	P	375
TGC	CAT	CCT	TTC	TTC	TCT	AAA	ATT	GAC	TGG	AAC	AAC	ATT	CGT	AAC	TCT	CCT	CCC	CCC	TTC	TTC	TTC	TTC	TTC	TTC	TTC	TTC	TTC	TTC	TTC	TTC	TTC	1125
V	P	T	L	K	S	D	D	D	T	S	N	F	D	E	P	E	K	N	S	S	S	S	S	S	S	S	S	S	S	S	S	395
GTT	CCC	ACC	CTC	AAG	TCT	GAC	GAT	GAC	ACC	TCC	AAT	TTT	GAT	GAA	CCA	GAG	AAG	AAT	TCG	TCG	TCG	TCG	TCG	TCG	TCG	TCG	TCG	TCG	TCG	TCG	TCG	1185
W	V	S	S	S	P	C	Q	L	S	P	S	G	F	S	G	E	E	L	P	P	P	P	P	P	P	P	P	P	P	P	P	415
TGG	GTT	TCA	TCC	TCT	CCG	TGC	CAG	CTG	AGC	CCC	TCA	GGC	TTC	TCG	GGT	GAA	GAA	CTG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	CCG	1245
F	V	G	F	S	Y	S	K	A	L	G	I	L	G	R	S	E	S	V	V	V	V	V	V	V	V	V	V	V	V	V	V	435
TTT	GTG	GGG	TTT	TCG	TAC	AGC	AAG	GCA	CTG	GGG	ATT	CTT	GGT	AGA	TCT	GAG	TCT	GTT	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	GTG	1305
S	G	L	D	S	P	A	K	T	S	S	M	E	K	L	L	I	K	S	S	S	S	S	S	S	S	S	S	S	S	S	S	455
TCG	GGT	CTG	GAC	TCC	CCT	GCC	AAG	ACT	AGC	TCC	ATG	GAA	AAG	AAA	CTT	CTC	ATC	AAA	AGC	AGC	AGC	AGC	AGC	AGC	AGC	AGC	AGC	AGC	AGC	AGC	AGC	1365
K	E	L	Q	D	S	Q	D	K	C	H	K	M	E	Q	E	M	T	R	L	L	L	L	L	L	L	L	L	L	L	L	L	475
AAA	GAG	CTA	CAA	GAC	TCT	CAG	GAC	AAG	TGT	CAC	AAG	ATG	GAG	CAG	GAA	ATG	ACC	CGG	TTA	TTA	TTA	TTA	TTA	TTA	TTA	TTA	TTA	TTA	TTA	TTA	TTA	1425

Fig. 1C

H R R V S E V E A V L S Q K E V E L K A	495
CAT CGG AGA GTG TCA GAG GTG GAG GCT GTG CTT AGT CAG AAG GAG GTG GAG CTG AAG GCC	1485
S E T Q R S L L E Q D L A T Y I T E C S	515
TCT GAG ACT CAG AGA TCC CTC GAG CAG GAC CTT GCT ACC TAC ATC ACA GAA TGC AGT	1545
S L K R S L E Q A R M E V S Q E D D K A	535
AGC TTA AAG CGA AGT TTG GAG CAA GCA CGG ATG GAG GTG TCC CAG GAG GAT GAC AAA GCA	1605
L Q L L H D I R E Q S R K L Q E I K E Q	555
CTG CAG CTT CTC CAT GAT ATC AGA GAG CAG AGC CGG AAG CTC CAA GAA ATC AAA GAG CAG	1665
E Y Q A Q V E E M R L M M N Q L E E D L	575
GAG TAC CAG GCT CAA GTG GAA GAA ATG AGG TTG ATG ATG AAT CAG TTG GAA GAG GAT CTT	1725
V S A R R R S D L Y E S E L R E S R L A	595
GTC TCA GCA AGA AGA CGG AGT GAT CTC TAC GAA TCT GAG CTG AGA GAG TCT CGG CTT GCT	1785
A E E F K R K A T E C Q H K L L K A K D	615
GCT GAA GAA TTC AAG CGG AAA CCG ACA GAA TGT CAG CAT AAA CTG TTG AAG GCT AAG GAT	1845
Q G K P E V G E Y A K L E K I N A E Q Q	635
CAA GGG AAG CCT GAA GTG GGA GAA TAT GCG AAA CTG GAG AAG ATC AAT GCT GAG CAG CAG	1905

Fig. 1D

F06201"91271001

L K I Q E L Q E K L E K A A K E R A E R	655
CTC AAA ATT CAG GAG CTC CAA GAG AAA CTG GAG AAG GCT GCA AAG GAG CGA GCC GAG AGG	1965
E L E K L Q N R E D S S E G I R K K L V	675
GAG CTG GAG AAG CTG CAG AAC CGA GAG GAT TCT TCT GAA GGC ATC AGA AAG AAG CTG GTG	2025
E A E E R R H S L E N K V K R L E T M E	695
GAA GCT GAG GAA CGC CGC CAT TCT CTG GAG AAC AAG GTA AAG AGA CTA GAG ACC ATG GAG	2085
R R E N R L K D I Q T K S Q Q I Q Q M	715
CGT AGA GAA AAC AGA CTG AAG GAT GAC ATC CAG ACA AAA TCC CAA CAG ATC CAG CAG ATG	2145
A D K I L E L E K H R E A Q V S A Q H	735
GCT GAT AAA ATT CTG GAG CTC GAA GAG AAA CAT CGG GAG GCC CAA GTC TCA GCC CAG CAC	2205
L E V H L K Q K E Q H Y E E K I K V L D	755
CTA GAA GTG CAC CTG AAA CAG AAA GAG CAG CAC TAT GAG GAA AAG ATT AAA GTG TTG GAC	2265
N Q I K K D L A D K E T L E N M M Q R H	775
AAT CAG ATA AAG AAA GAC CTG GCT GAC AAG GAG ACA CTG GAG AAC ATG ATG CAG AGA CAC	2325
E E E A H E K G K I L S E Q K A M I N A	795
GAG GAG GAG GCC CAT GAG AAG GGC AAA ATT CTC AGC GAA CAG AAG GCG ATG ATC AAT GCT	2385

Fig. 1E

FOE201-912/1001

Title: "13245, A Novel Human Myotonic Dystrophy Type Protein Kinase and Uses Therefor"
 Inventors: Rosana Kapeller-Libermann et al.
 U.S. Patent Appl. No.: Not Yet Assigned
 Express Mail # EL916956451US Attorney Docket No. 10147-57U1 Cust # 570

M D S K I R S L E Q R I V E L S E A N K	815
ATG GAT TCC AAG ATC AGA TCC CTG GAA CAG AGG ATT GTG GAA CTG TCT GAA GCC AAT AAA	2445
L A A N S S L F T Q R N M K A Q E E M I	835
CTT GCA GCA AAT AGC AGT CTT TTT ACC CAA AGG AAC ATG AAG GCC CAA GAA GAG ATG ATT	2505
S E L R Q Q K F Y L E T Q A G K L E A Q	855
TCT GAA CTC AGG CAA CAG AAA TTT TAC CTG GAG ACA CAG GCT GGG AAG TTG GAG GCC CAG	2565
N R K L E E Q L E K I S H Q D H S D K N	875
AAC CGA AAA CTG GAG GAG CAG CTG GAG AAG ATC AGC CAC CAA GAC CAC AGT GAC AAG AAT	2625
R L L E L E T R L R E V S L E H E Q K	895
CGG CTG CTG GAA CTG GAG ACA AGA TTG CGG GAG GTC AGT CTA GAG CAC GAG GAG CAG AAA	2685
L E L K R Q L T E L Q L S L Q E R E S Q	915
CTG GAG CTC AAG CGC CAG CTC ACA GAG CTA CAG CTC TCC CTG CAG GAG CGC GAG TCA CAG	2745
L T A L Q A A R A A L E S Q L R Q A K T	935
TTG ACA GCC CTG CAG GCT GCA CGG GCG GCC CTG GAG AGC CAG CAG CTT CGC CAG GCG AAG ACA	2805
E L E E T T A E A E E I Q A L T A H R	955
GAG CTG GAA GAG ACC ACA GAA GCT GAA GAG GAG ATC CAG GCA CTC ACC GCA CAT AGA	2865

Fig. 1F

D E I Q R K F D A L R N S C T V I T D L	975
GAT GAA ATC CAG CGC AAA TTT GAT GCT CTT CGT AAC AGC TGT ACT GTA ATC ACA GAC CTG	2925
E E Q L N Q L T E D N A E L N N Q N F Y	995
GAG GAG CAG CTA AAC CAG CTG ACC GAG GAC AAC GCT GAA CTC AAC AAC CAA AAC TTC TAC	2985
L S K Q L D E A S G A N D E I V Q L R S	1015
TTG TCC AAA CAA CTC GAT GAG GCT TCT GGC GCC AAC GAC GAG ATT GTA CAA CTG CGA AGT	3045
E V D H L R R E I T E R E M Q L T S Q K	1035
GAA GTG GAC CAT CTC CGC CGG GAG ATC ACG GAA CGA GAG ATG CAG CTT ACC AGC CAG AAG	3105
Q T M E A L K T T C T M L E E Q V M D L	1055
CAA ACG ATG GAG GCT CTG AAG ACC ACG TGC ACC ATG CTG GAG GAA CAG GTC ATG GAT TTG	3165
E A L N D E L L E K E R Q W E A W R S V	1075
GAG GCC CTA AAC GAT GAG CTG CTA GAA AAA GAG CGG CAG TGG GAG GCC TGG AGG AGC GTC	3225
L G D E K S Q F E C R V R E L Q R M L D	1095
CTG GGT GAT GAG AAA TCC CAG TTT GAG TGT CGG GTT CGA GAG CTG CAG AGA ATG CTG GAC	3285
T E K Q S R A R A D Q R I T E S R Q V	1115
ACC GAG AAA CAG AGC AGG GCG AGA GCC GAT CAG CGG ATC ACC GAG TCT CGC CAG GTG GTG	3345

Fig. 1G

E L A V K E H K A E I L A L Q Q A L K E	1135
GAG CTG GCA GTG AAG GAG CAC AAG GCT GAG ATT CTC GCT CAG CAG GCT CTC AAA GAG	3405
Q K L K A E S L S D K K L N D L E K K H A	1155
CAG AAG CTG AAG GCC GAG AGC CTC TCT GAC AAG CTC AAT GAC CTG GAG AAG AAG CAT GCT	3465
M L E M N A R S L Q Q CAG CAG AAG CTG GAG ACT GAA CGA GAG CTC AAA	1175
ATG CTT GAA ATG AAT GCC AGC TTA CAG CAG AAG CTG GAG ACT GAA CGA GAG CTC AAA	3525
Q R L L E E Q A K L Q Q CAG CAG AAG CTG GAG ACT GAA CGA GAG CTC AAA	1195
CAG AGG CTT CTG GAA GAG CAA GCC AAA TTA CAG CAG AAG CTG GAG ACT GAA CGA GAG CTC AAA	3585
I F R L T Q G L Q E A L D R A D L L K T	1215
ATT TTC CGT CTG ACT CAA GGA CTG CAA GAA GCT CTA GAT CGG GCT GAT CTA CTG AAG ACA	3645
E R S D L E Y Q L E N I Q V L Y S H E K	1235
GAA AGA AGT GAC TTG GAG TAT CAG CTG GAA AAC ATT CAG GTT CTC TAT TCT CAT GAA AAG	3705
V K M E G T I S Q Q T K L I D F L Q A K	1255
GTG AAA ATG GAA GGC ACT ATT TCT CAA ACC AAA CTC ATT GAT TTT CTG CAA GCC AAA	3765
M D Q P A K K K G L F S R R K E D P A	1275
ATG GAC CAA CCT GCT AAA AAG AAG AAG GGT TTA TTT AGT CGA CGG AAA GAG GAC CCT GCT	3825

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Fig. 1H

L	P	T	Q	V	P	L	Q	CAG	GTT	CCT	CTG	CAG	TAC	AAT	GAG	CTG	AAG	CTG	GCC	CTG	AAG	GAG	AAG	GAG	K	E	K	A	1295
TTA	CCC	ACA	CAG	GTT	CCT	CTG	CAG	TAC	AAT	GAG	CTG	AAG	CTG	GCC	CTG	AAG	GAG	AAG	GAG	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	AAA	3885
A	R	C	A	E	L	E	E	A	L	Q	K	T	R	I	E	L	R	S	A	1315									
GCT	CGC	TGT	GCA	GAG	CTA	GAG	GAA	GCC	CTT	CAG	AAG	ACC	CGC	ATC	GAG	CTC	CGG	TCC	GCC	3945									
R	E	E	A	A	H	R	K	A	T	D	H	P	H	P	S	T	P	A	T	1335									
CGG	GAG	GAA	GCT	GCC	CAC	CGC	AAA	GCA	ACG	GAC	CAC	CCA	CAC	CCA	TCC	ACG	CCA	GCC	ACC	4005									
A	R	Q	Q	I	A	M	S	A	I	V	R	S	P	E	H	Q	P	S	A	1355									
CGG	AGG	CAG	CAG	ATC	GCC	ATG	TCC	GCC	ATC	GTG	CGG	TCC	CCA	GAG	CAC	CAG	CCC	AGT	GCC	4065									
M	S	L	L	A	P	P	S	S	R	R	K	E	S	S	T	P	E	E	F	1375									
ATG	AGC	CTG	CTG	GCC	CCG	CCG	TCC	AGC	CGC	AGA	AAG	GAG	TCT	TCA	ACT	CCA	GAG	GAA	TTT	4125									
S	R	R	L	K	E	R	M	H	H	N	I	P	H	R	F	N	V	G	L	1395									
AGT	CGG	CGT	CTT	AAG	GAA	CGC	ATG	CAC	CAC	AAT	ATT	CCT	CAC	CGA	TTC	AAC	GTA	GGA	CTG	4185									
N	M	R	A	T	K	C	A	V	C	L	D	T	V	H	F	G	R	Q	A	1415									
AAC	ATG	CGA	GCC	ACA	AAG	TGT	GCT	GTG	TGT	CTG	GAT	ACC	GTG	CAC	TTT	GGA	CGC	CAG	GCA	4245									
S	K	C	L	E	C	Q	V	M	C	H	P	K	C	S	T	C	L	P	A	1435									
TCC	AAA	TGT	CTC	GAA	TGT	CAG	GTG	ATG	TGT	CAC	CCC	AAG	TGC	TCC	ACG	TGC	TTG	CCA	GCC	4305									

Fig. 11

T	C	G	L	P	A	E	Y	A	T	H	F	T	E	A	F	C	R	D	K	1455
ACC	TGC	GGC	TTG	CCT	GCT	GAA	TAT	GCC	ACA	CAC	TTC	ACC	GAG	GCC	TTC	TGC	CGT	GAC	AAA	4365
M	N	S	P	G	L	Q	T	K	E	P	S	S	S	L	H	L	E	G	W	1475
ATG	AAC	TCC	CCA	GGT	CTC	CAG	ACC	AAG	GAG	CCC	AGC	AGC	AGC	TTG	CAC	CTG	GAA	GGG	TGG	4425
M	K	V	P	R	N	N	K	R	G	Q	Q	G	W	D	R	K	Y	I	V	1495
ATG	AAG	GTG	CCC	AGG	AAT	AAC	AAA	CGA	GGA	CAG	CAA	GGC	TGG	GAC	AGG	AAG	TAC	ATT	GTC	4485
L	E	G	S	K	V	L	I	Y	D	N	E	A	R	E	A	G	Q	R	P	1515
CTG	GAG	GGA	TCA	AAA	GTC	CTC	ATT	TAT	GAC	AAT	GAA	GCC	AGA	GAA	GCT	GGA	CAG	AGG	CCG	4545
V	E	E	F	E	L	C	L	P	D	G	D	V	S	I	H	G	A	V	G	1535
GTG	GAA	GAA	TTT	GAG	CTG	TGC	CTT	CCC	GAC	GGG	GAT	GTA	TCT	ATT	CAT	GGT	GCC	GTT	GGT	4605
A	S	E	L	A	N	T	A	K	A	E	K	A	E	A	D	A	K	L	L	1555
GCT	TCC	GAA	CTC	GCA	AAT	ACA	GCC	AAA	GCA	GAA	GAA	GCT	GAT	GCT	AAA	CTG	CTT			4665
G	N	S	L	L	K	L	E	G	D	D	R	L	D	M	N	C	T	L	P	1575
GGA	AAC	TCC	CTG	AAA	CTG	GAA	GGT	GAT	GAC	GAC	CTA	GAC	ATG	AAC	TGC	ACG	CTG	CCC		4725
F	S	D	Q	V	V	L	V	G	T	E	E	G	L	Y	A	L	N	V	L	1595
TTC	AGT	GAC	CAG	GTG	GTG	TTG	GTG	GGC	ACC	GAG	GAA	GGG	CTC	TAC	GCC	CTG	AAT	GTC	TTG	4785

Fig. 1J

K N S L T H V P G I G A V F Q I Y I I K	1615
AAA AAC TCC CTA ACC CAT GTC CCA GGA ATT GGA GCA GTC TTC CAA ATT TAT ATT ATC AAG	4845
D L E K L L M I A G E E R A L C L V D V	1635
GAC CTG GAG AAG CTA CTC ATG ATA GCA GGA GAA GAG CGG GCA CTG TGT CTT GTG GAC GTG	4905
K K V K Q S L A Q S H L P A Q P D I S P	1655
AAG AAA GTG AAA CAG TCC CTG GCC CAG TCC CAC CTG CCT GCC CAG CCC GAC ATC TCA CCC	4965
N I F E A V K G C H L F G A G K I E N G	1675
AAC ATT TTT GAA GCT GTC AAC GGC TGC CAC TTG TTT GGG GCA GGC AAG ATT GAG AAC GGG	5025
L C I C A A M P S K V V I L R Y N E N L	1695
CTC TGC ATC TGT GCA GCC ATG CCC AGC AAA GTC GTC ATT CTC CGC TAC AAC GAA AAC CTC	5085
S K Y C I R K E I E T S E P C S C I H F	1715
AGC AAA TAC TGC ATC CGG AAA GAG ATA GAG ACC TCA GAG CCC TGC AGC TGT ATC CAC TTC	5145
T N Y S I L I G T N K F Y E I D M K Q Y	1735
ACC AAT TAC AGT ATC CTC ATT GGA ACC AAT AAA TTC TAC GAA ATC GAC ATG AAG CAG TAC	5205
T L E E F L D K N D H S L A P A V F A A	1755
ACG CTC GAG GAA TTC CTG GAT AAC AAT GAC CAT TCC TTG GCA CCT GCT GTG TTT GCC GCC	5265

Fig. 1K

1002201-91241001

Title: "13245, A Novel Human Myotonic Dystrophy Type Protein Kinase and Uses Thereof"
 Inventors: Rosana Kapeller-Libermann et al.
 U.S. Patent Appl. No.: Not Yet Assigned
 Express Mail # EL916936451US Attorney Docket No. 10147-57U1 Cust # 570

S S N S F P V S I V Q V N S A G Q R E E	1775
TCT TCC AAC AGC TTC CCT GTC TCA ATC GTG CAG GTG AAC AGC GCA GGG CAG CGA GAG GAG	5325
Y L L C F H E F G V F V D S Y G R R S R	1795
TAC TTG CTG TGT TTC CAC GAA TTT GGA GTG TTC GTG GAT TCT TAC GGA AGA CGT AGC CGC	5385
T D D L K W S R L P L A F A Y R E P Y L	1815
ACA GAC GAT CTC AAG TGG AGT CGC TTA CCT TTG GCC TTT GCC TAC AGA GAA CCC TAT CTG	5445
F V T H F N S L E V I E I Q A R S S A G	1835
TTT GTG ACC CAC TTC AAC TCA CTC GAA GTA ATT GAG ATC CAG GCA CGC TCC TCA GCA GGG	5505
T P A R A Y L D I P N P R Y L G P A I S	1855
ACC CCT GCC CGA GCG TAC CTG GAC ATC CCG AAC CCG CGC TAC CTG GGC CCT GCC ATT TCC	5565
S G A I Y L A S S Y Q D K L R V I C C K	1875
TCA GGA GCG ATT TAC TTG GCG TCC TCA TAC CAG GAT AAA TTA AGG GTC ATT TGC TGC AAG	5625
G N L V K E S G T E H H R G P S T S R S	1895
GGA AAC CTC GTG AAG GAG TCC GGC ACT GAA CAC CAC CGG GGC CCG TCC ACC TCC CGC AGC	5685
S P N K R G P P T Y N E H I T K R V A S	1915
AGC CCC AAC AAG CGA GGC CCA CCC ACG TAC AAC GAG CAC ATC ACC AAG CGC GTG GCC TCC	5745

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Fig. 1L

T0E20T'912ZT00T

S	P	A	P	P	E	G	P	S	H	P	R	E	P	S	T	P	H	R	Y	1935
AGC	CCA	GCG	CCG	CCC	GAA	GGC	CCC	AGC	CAC	CCG	CGA	GAG	CCA	AGC	ACA	CCC	CAC	CGC	TAC	5805
R	E	G	R	T	E	L	R	R	D	K	S	P	G	R	P	L	E	R	E	1955
CGC	GAG	GGG	CGG	ACC	GAG	CTG	CGC	AGG	GAC	AAG	TCT	CCT	GGC	CGC	CCC	CTG	GAG	CGA	GAG	5865
K	S	P	G	R	M	L	S	T	R	R	E	R	S	P	G	R	L	F	E	1975
AAG	TCC	CCC	GGC	CGG	ATG	CTC	AGC	ACG	ACG	CGG	AGA	GAG	CGG	TCC	CCC	GGG	AGG	CTG	TTT	5925
D	S	S	R	G	R	L	P	A	G	A	V	R	T	P	L	S	Q	V	N	1995
GAC	AGC	AGC	AGG	GGC	CGG	CTG	CCT	GCG	GGA	GCC	GTG	AGG	ACC	CCG	CTG	TCC	CAG	GTG	AAC	5985
K	G	R	G	Q	S	A	S	Q	V	F	T	V	N	T	V	T	Y	Y	D	2015
AAG	GGA	AGA	GGG	CAG	AGT	GCC	TCT	CAA	GTT	TTC	ACG	GTT	AAC	ACT	GTC	ACC	TAT	TAT	GAC	6045
W	N	K	K	L	D	N	L	P	A	N	W	S	V	L	R	I	I	Q	L	2035
TGG	AAT	AAA	AAG	CTG	GAC	AAC	CTG	CCA	GCT	AAC	TGG	TCA	GTC	CTG	AGG	ATC	ATC	CAG	CTG	6105
N	G	E	I	R	Q	Q	V	E	K	S	V	L	R	T	D	Y	C	*		2053
AAT	GGA	GAA	ATC	CGG	CAG	CAG	GTT	GAA	AAG	TCT	GTT	CTG	AGA	ACA	GAT	TAT	TGC	TGA		6162
GCAG	ATT	CA	TGT	GACT	CTAG	ACG	TGT	GACT	TTAAAA	ATGG	CTTAA	GGCTG	CAG	AGCC	AGCC	ACCTCT	GCTTACAA			
AAAG	ACT	CTAG	TGC	ACAT	GACT	GTAA	GAACA	ATGT	TAAC	CCAT	CTAGA	AAAT	TCAG	AAAG	CTTCTA	ATTTCT	TATA			
GAA	AT	CAC	ACT	CCCT	GGAG	CCG	GAG	ACAT	CTGT	TGTT	GATTTT	GAAG	CAC	AGG	CAAG	CCAC	CACTGT	ATTTAGTT		
CCAT	AG	CCG	CCCT	CAAC	CAG	GGAC	AGT	GGCT	GGCT	TAAA	ACAC	CAG	ATG	ACT	GGAA	TGAT	GTGG	CCCTAG		
CCT	GT	TCC	CGA	ATTT	ACT	GGCA	AGG	ATT	AGC	ATT	CTATTT	TGGCTT	TAAG	AAAA	AATCG	AGAA	TGTAG	TTT		

Fig. 1M

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10017316.102301

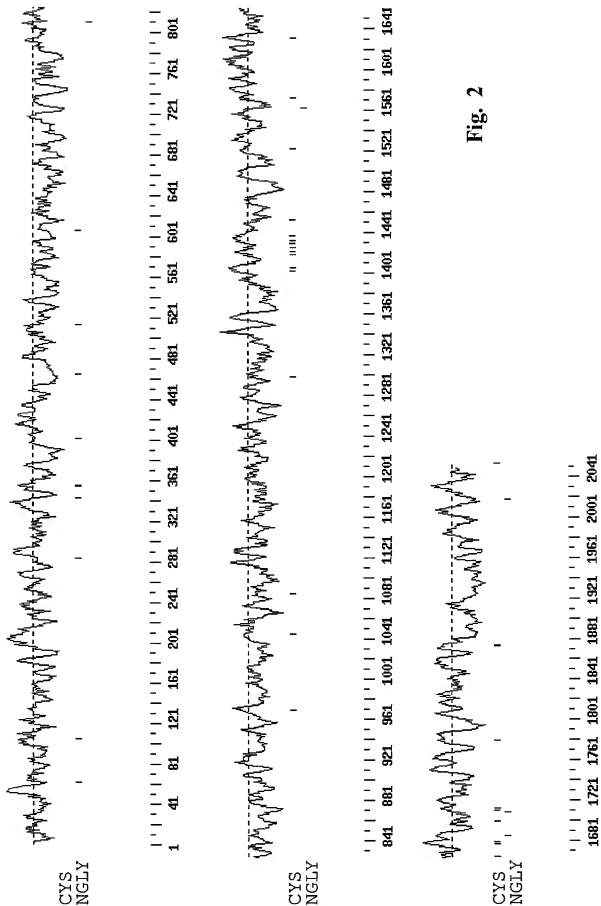


Fig. 2

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Fig. 3A

1	13245	MLKFKYGARN	PLDAGAAEPI	ASRASRLNLF	FQKPPFMTQ	QQMSPLSREG	50
	AAC72823	MLKFKYGVNR	PPEASASEPI	ASRASRLNLF	FQKPPPLMTQ	QQMSALSREG	
	AAC27933	.....	.....	.....	.....	.....
	P49025	.....	.....	.....	.....	.....
	O14578	.....	.....	.....	.....	.....
51	13245	ILDALFVLFE	ECSQPALMKI	KHVSNEVRKY	SDTIAELQEL	QPSAKDFEVR	100
	AAC72823	MLDALFALFE	ECSQPALMKM	KHVSSEFQKY	SDTIAELREL	QPSARDFEVR	
	AAC27933	.....	.....	.....	.....	.....
	P49025	.....	.....	.....	.....	.....
	O14578	.....	.....	.....	.....	.....
101	13245	SLVGCGHFAE	VQVREKATG	DIYAMKVMKK	KALLAQEQVS	FFEEERNILS	150
	AAC72823	SLVGCGHFAE	VQVREKATG	DVIAMKIMKK	KALLAQEQVS	FFEEERNILS	
	AAC27933	.....	.....	.....	.....	.....
	P49025	.....	.....	.....	.....	.....
	O14578	.....	.....	.....	.....	.....
151	13245	RSTSPWIPQL	QYAFQDKNHL	YIMEEYQPGG	DLLSLNRYE	DQLDENLIQF	200
	AAC72823	RSTSPWIPQL	QYAFQDKNNL	YIVMEYQPGG	DFLSLNRYE	DQLDESMIQF	
	AAC27933	
	P49025	
	O14578	

Fig. 3B

[illegible]

[illegible]

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Fig. 3D

TOC20T"91227100T

13245	RKATECOHKL	LKAKDOGKPE	VGEYAKLEKI	NAEQQLKIQE	LQEKLEKA..	650
AAC72823	RKANECOHL	MKAKDOGKPE	VGEYSKLEKI	NAEQQLKIQE	LQEKLEKAVK	
AAC27933	RKANECOHL	MKAKDOGKPE	VGEYSKLEKI	NAEQQLKIQE	LQEKLEKAVK	
P49025	RKANECOHL	MKAKDOGKPE	VGEYSKLEKI	NAEQQLKIQE	LQEKLEKAVK	
O14578	.....	.....	.....	.....	.....
601						
13245	.....	AKERAE	RELEKLQNRE	DSSEGIRKKL	VEAEERRHSL	700
AAC72823	ASTEATELLQ	NIRQAKERAE	RELEKLHNRE	DSSEGIRKKL	VEAEERRHSL	
AAC27933	ASTEATELLQ	NIRQAKERAE	RELEKLHNRE	DSSEGIRKKL	VEAE.....	
P49025	ASTEATELLQ	NIRQAKERAE	RELEKLHNRE	DSSEGIRKKL	VEAEERRHSL	
O14578	.....	.....	.....	.....	.....
701						
13245	ENKVKRLETM	ERRENRLKDD	IQTKSQIQ	MADKILELEE	KHREAQVSAQ	750
AAC72823	ENKVKRLETM	ERRENRLKDD	IQTKSQIQ	MADKILELEE	KHREAQVSAQ	
AAC27933	.....	.....	.....	.....LEE	KHREAQVSAQ	
P49025	ENKVKRLETM	ERRENRLKDD	IQTKSQIQ	MADKILELEE	KHREAQVSAQ	
O14578	.....	.....	.....	.....	.....
751						
13245	HLEVHLKQKE	QHYEEKIKVL	DNQIKKDIAL	KETLENMQR	HEEEAHEKKGK	800
AAC72823	HLEVHLKQKE	QHYEEKIKVL	DNQIKKDIAL	KESLENMQR	HEEEAHEKKGK	
AAC27933	HLEVHLKQKE	QHYEEKIKVL	DNQIKKDIAL	KESLENMQR	HEEEAHEKKGK	
P49025	HLEVHLKQKE	QHYEEKIKVL	DNQIKKDIAL	KESLENMQR	HEEEAHEKKGK	
O14578	.....	.....VL	DNQIKKDIAL	KETLENMQR	HEEEAHEKKGK	

Fig. 3E

13245	ILSEQKAMIN	AMDSKIRSLE	QRIVELSEAN	KLAANSSSLFT	QRNMKAQEEM	850
AAC72823	ILSEQKAMIN	AMDSKIRSLE	QRIVELSEAN	KLAANSSSLFT	QRNMKAQEEM	
AAC27933	ILSEQKAMIN	AMDSKIRSLE	QRIVELSEAN	KLAANSSSLFT	QRNMKAQEEM	
P49025	ILSEQKAMIN	AMDSKIRSLE	QRIVELSEAN	KLAANSSSLFT	QRNMKAQEEM	
O14578	ILSEQKAMIN	AMDSKIRSLE	QRIVELSEAN	KLAANSSSLFT	QRNMKAQEEM	
801						
13245	ISELROOKFY	LETQAGKLEA	QNRKLEEQLE	KISHQDHSDK	NRLLELETRL	900
AAC72823	ISELROOKFY	LETQAGKLEA	QNRKLEEQLE	KISHQDHSDK	SRLLELETRL	
AAC27933	ISELROOKFY	LETQAGKLEA	QNRKLEEQLE	KISHQDHSDK	SRLLELETRL	
P49025	ISELROOKFY	LETQAGKLEA	QNRKLEEQLE	KISHQDHSDK	SRLLELETRL	
O14578	ISELROOKFY	LETQAGKLEA	QNRKLEEQLE	KISHQDHSDK	NRLLELETRL	
851						
13245	REVSLEHEEQ	KLELKRQLTE	LQLSLQERES	QLTALQAARA	ALESQLRQAK	950
AAC72823	REVSLEHEEQ	KLELKRQLTE	LQLSLQERES	QLTALQAARA	ALESQLRQAK	
AAC27933	REVSLEHEEQ	KLELKRQLTE	LQLSLQERES	QLTALQAARA	ALESQLRQAK	
P49025	REVSLEHEEQ	KLELKRQLTE	LQLSLQERES	QLTALQAARA	ALESQLRQAK	
O14578	REVSLEHEEQ	KLELKRQLTE	LQLSLQERES	QLTALQAARA	ALESQLRQAK	
901						
13245	TELEETTAAE	EEEIQALTAAH	RDEIQRKFDA	LRNSCTVITD	LEEQLNQLTE	1000
AAC72823	TELEETTAAE	EEEIQALTAAH	RDEIQRKFDA	LRNSCTVITD	LEEQLNQLTE	
AAC27933	TELEETTAAE	EEEIQALTAAH	RDEIQRKFDA	LRNSCTVITD	LEEQLNQLTE	
P49025	TELEETTAAE	EEEIQALTAAH	RDEIQRKFDA	LRNSCTVITD	LEEQLNQLTE	
O14578	TELEETTAAE	EEEIQALTAAH	RDEIQRKFDA	LRNSCTVITD	LEEQLNQLTE	
951						

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Fig. 3F

100201*91247001

1001	13245	DNAELNNQNF	YLSKQLDEAS	GANDEIVQLR	SEVDHLRREI	TEREMQLTSQ	1050
	13245	DNAELNNQNF	YLSKQLDEAS	GANDEIVQLR	SEVDHLRREI	TEREMQLTSQ	
	AAC72823	DNAELNNQNF	YLSKQLDEAS	GANDEIVQLR	SEVDHLRREI	TEREMQLTSQ	
	AAC27933	DNAELNNQNF	YLSKQLDEAS	GANDEIVQLR	SEVDHLRREI	TEREMQLTSQ	
	P49025	DNAELNNQNF	YLSKQLDEAS	GANDEIVQLR	SEVDHLRREI	TEREMQLTSQ	
	O14578	DNAELNNQNF	YLSKQLDEAS	GANDEIVQLR	SEVDHLRREI	TEREMQLTSQ	
1051	13245	KQTMEALKTT	CTMLEEQVMD	LEALNDELLE	KERQWEAWRS	VLGDEKSQFE	1100
	13245	KQTMEALKTT	CTMLEEQVMD	LEALNDELLE	KERQWEAWRS	VLGDEKSQFE	
	AAC72823	KQTMEALKTT	CTMLEEQVMD	LEALNDELLE	KERQWEAWRS	VLGDEKSQFE	
	AAC27933	KQTMEALKTT	CTMLEEQVMD	LEALNDELLE	KERQWEAWRS	VLGDEKSQFE	
	P49025	KQTMEALKTT	CTMLEEQVMD	LEALNDELLE	KERQWEAWRS	VLGDEKSQFE	
	O14578	KQTMEALKTT	CTMLEEQVMD	LEALNDELLE	KERQWEAWRS	VLGDEKSQFE	
1101	13245	CRVREIQRLM	DTEKQSRARA	DQRITESRQV	VELAVKEHKA	EILALQOALK	1150
	13245	CRVREIQRLM	DTEKQSRARA	DQRITESRQV	VELAVKEHKA	EILALQOALK	
	AAC72823	CRVREIQRLM	DTEKQSRARA	DQRITESRQV	VELAVKEHKA	EILALQOALK	
	AAC27933	CRVREIQRLM	DTEKQSRARA	DQRITESRQV	VELAVKEHKA	EILALQOALK	
	P49025	CRVREIQRLM	DTEKQSRARA	DQRITESRQV	VELAVKEHKA	EILALQOALK	
	O14578	CRVREIQRLM	DTEKQSRARA	DQRITESRQV	VELAVKEHKA	EILALQOALK	
1151	13245	EQKLKABEELS	DKINDLEKKH	AMLEMNARSL	QOKLETEREL	KORLLEEQAK	1200
	13245	EQKLKABEELS	DKINDLEKKH	AMLEMNARSL	QOKLETEREL	KORLLEEQAK	
	AAC72823	EQKLKABEELS	DKINDLEKKH	AMLEMNARSL	QOKLETEREL	KORLLEEQAK	
	AAC27933	EQKLKABEELS	DKINDLEKKH	AMLEMNARSL	QOKLETEREL	KORLLEEQAK	
	P49025	EQKLKABEELS	DKINDLEKKH	AMLEMNARSL	QOKLETEREL	KORLLEEQAK	
	O14578	EQKLKABEELS	DKINDLEKKH	AMLEMNARSL	QOKLETEREL	KORLLEEQAK	

Fig. 3G

1201	1250				
13245	LOQQMDLQKN	HIFRLTQGLQ	EALDRADLLK	TERSDLEYQL	ENIQVLYSHE
AAC72823	LOQQMDLQKN	HIFRLTQGLQ	EALDRADLLK	TERSDLEYQL	ENIQVLYSHE
AAC27933	LOQQMDLQKN	HIFRLTQGLQ	EALDRADLLK	TERSDLEYQL	ENIQVLYSHE
P49025	LOQQMDLQKN	HIFRLTQGLQ	EALDRADLLK	TERSDLEYQL	ENIQVLYSHE
O14578	LOQQMDLQKN	HIFRLTQGLQ	EALDRADLLK	TERSDLEYQL	ENIQVLYSHE
1251	1300				
13245	KVKMEGTISQ	QTKLIDFLQA	KMDQPAKKKK	GLFSRRKEDP	ALPTQVPLQY
AAC72823	KVKMEGTISQ	QTKLIDFLQA	KMDQPAKKKK	.....	.....VPLQY
AAC27933	KVKMEGTISQ	QTKLIDFLQA	KMDQPAKKKK	.....	.....VPLQY
P49025	KVKMEGTISQ	QTKLIDFLQA	KMDQPAKKKK	.....	.....VPLQY
O14578	KVKMEGTISQ	QTKLIDFLQA	KMDQPAKKKK	.....	.....VPLQY
1301	1350				
13245	NELKIALEKE	KARCAELEEA	LQKTRIELRS	AREEAAHRKA	TDHPHPSTPA
AAC72823	NELKIALEKE	KARCAELEEA	LQKTRIELRS	AREEAAHRKA	TDHPHPSTPA
AAC27933	NELKIALEKE	KARCAELEEA	LQKTRIELRS	AREEAAHRKA	TDHPHPSTPA
P49025	NELKIALEKE	KARCAELEEA	LQKTRIELRS	AREEAAHRKA	TDHPHPSTPA
O14578	NELKIALEKE	KARCAELEEA	LQKTRIELRS	AREEAAHRKA	TDHPHPSTPA
1351	1400				
13245	TARQOIAMSA	IVRSPEHQPS	AMSLAPPSS	RRKESSTPEE	FSRRLKERMH
AAC72823	TARQOIAMSA	IVRSPEHQPS	AMSLAPPSS	RRKESSTPEE	FSRRLKERMH
AAC27933	TARQOIAMSA	IVRSPEHQPS	AMSLAPPSS	RRKESSTPEE	FSRRLKERMH
P49025	TARQOIAMSA	IVRSPEHQPS	AMSLAPPSS	RRKESSTPEE	FSRRLKERMH
O14578	TARQOIAMSA	IVRSPEHQPS	AMSLAPPSS	RRKESSTPEE	FSRRLKERMH

1601	1650
13245	..... .EKA EADAKL
AAC72823	ESV VAGGRVS
AAC27933	ESV VAGGRVS
P49025	ESV VAGGRVS
O14578	ESV VAGGRVS
1651	1700
13245	TEEGLYALNV
AAC72823	TEEGLYALNV
AAC27933	TEEGLYALNV
P49025	TEEGLYALNV
O14578	TEEGLYALNV
1701	1750
13245	VKKVKQSLAQ
AAC72823	VKKVKQSLAQ
AAC27933	VKKVKQSLAQ
P49025	VKKVKQSLAQ
O14578	VKKVKQSLAQ
1751	1800
13245	KVVILRYNEN
AAC72823	KVVILRYNDN
AAC27933	KVVILRYNDN
P49025	KVVILRYNDN
O14578	KVVILRYNEN

Fig. 3J

105201"91271001

1801	YTLDEFDKN	DHSLAPAVFA	ASSNSFPVSI	VQNSAGQRE	EYLLCFHEFG	1850
13245	YTLDEFDKN	DHSLAPAVFA	SSNSFPVSI	VQNSAGQRE	EYLLCFHEFG	
AAC272823	YTLDEFDKN	DHSLAPAVFA	SSNSFPVSI	VQNSAGQRE	EYLLCFHEFG	
AAC27933	YTLDEFDKN	DHSLAPAVFA	SSNSFPVSI	VQNSAGQRE	EYLLCFHEFG	
P49025	YTLDEFDKN	DHSLAPAVFA	SSNSFPVSI	VQNSAGQRE	EYLLCFHEFG	
O14578	YTLDEFDKN	DHSLAPAVFA	ASSNSFPVSI	VQNSAGQRE	EYLLCFHEFG	
1851	VFVDSYGRRS	RTDDLKWSRL	PLAFAYREPY	LFVTHFNSLE	VIEIQARSSA	1900
13245	VFVDSYGRRS	RTDDLKWSRL	PLAFAYREPY	LFVTHFNSLE	VIEIQARSSA	
AAC272823	VFVDSYGRRS	RTDDLKWSRL	PLAFAYREPY	LFVTHFNSLE	VIEIQARSSA	
AAC27933	VFVDSYGRRS	RTDDLKWSRL	PLAFAYREPY	LFVTHFNSLE	VIEIQARSSA	
P49025	VFVDSYGRRS	RTDDLKWSRL	PLAFAYREPY	LFVTHFNSLE	VIEIQARSSA	
O14578	VFVDSYGRRS	RTDDLKWSRL	PLAFAYREPY	LFVTHFNSLE	VIEIQARSSA	
1901	GTPARAYLDI	PNPRYLGPAI	SSGAIYLIASS	YQDKLRVICC	KGNLVKESGT	1950
13245	GTPARAYLDI	PNPRYLGPAI	SSGAIYLIASS	YQDKLRVICC	KGNLVKESGT	
AAC272823	GTPARAYLDI	PNPRYLGPAI	SSGAIYLIASS	YQDKLRVICC	KGNLVKESGT	
AAC27933	GTPARAYLDI	PNPRYLGPAI	SSGAIYLIASS	YQDKLRVICC	KGNLVKESGT	
P49025	GTPARAYLDI	PNPRYLGPAI	SSGAIYLIASS	YQDKLRVICC	KGNLVKESGT	
O14578	GTPARAYLDI	PNPRYLGPAI	SSGAIYLIASS	YQDKLRVICC	KGNLVKESGT	
1951	EHRGPSTSR	SSPNKRGPPPT	YNEHITKRVA	SSPAPPEGPS	HPREPSTPHR	2000
13245	EHRGPSTSR	SSPNKRGPPPT	YNEHITKRVA	SSPAPPEGPS	HPREPSTPHR	
AAC272823	EHRGPSTSR	SSPNKRGPPPT	YNEHITKRVA	SSPAPPEGPS	HPREPSTPHR	
AAC27933	EHRGPSTSR	SSPNKRGPPPT	YNEHITKRVA	SSPAPPEGPS	HPREPSTPHR	
P49025	EHRGPSTSR	SSPNKRGPPPT	YNEHITKRVA	SSPAPPEGPS	HPREPSTPHR	
O14578	EHRGPSTSR	SSPNKRGPPPT	YNEHITKRVA	SSPAPPEGPS	HPREPSTPHR	

Fig. 3K

2001		2050	
13245	YR..EGRTEL	RRDKSPGRPL	EREKSPGRML
AAC72823	YRDREGRTEL	RRDKSPGRPL	EREKSPGRML
AAC27933	YRDREGRTEL	RRDKSPGRPL	EREKSPGRML
P49025	YRDREGRTEL	RRDKSPGRPL	EREKSPGRML
O14578	YR..EGRTEL	RRDKSPGRPL	EREKSPGRML
2051		2100	
13245	PAGAVRTPLS	QVKNKGRQSA	SQVFTVNTVT
AAC72823	PAGAVRTPLS	QVKNKWDQSS	V.....
AAC27933	PAGAVRTPLS	QVKNKWDQSS	V.....
P49025	PAGAVRTPLS	QVKNKWDQSS	V.....
O14578	PAGAVRTPLS	QVKNKWDQSS	V.....
2101		2121	
13245	IQLNGEIRQQ	VEKSVLRDY	C
AAC72823	.....	.....	.
AAC27933	.....	.....	.
P49025	.....	.....	.
O14578	.....	.....	.